

Adding and Subtracting Fractions with Like Denominators

Two fractions with the same denominator have **like denominators**.

When adding and subtracting fractions with like denominators, the denominator acts like a label, telling you what size pieces you are using. The numerators are the number of pieces you add or subtract.

Example 1

Simplify $\frac{5}{8} + \frac{1}{8}$.

Add numerators only.

$$\begin{aligned}\frac{5}{8} + \frac{1}{8} &= \frac{5+1}{8} \\ &= \frac{6}{8} \\ &= \frac{3}{4}\end{aligned}$$

Denominators do not change.

Write in lowest terms.

So, $\frac{5}{8} + \frac{1}{8} = \frac{3}{4}$.



Try It Simplify. Draw a picture if you like. Write each answer in lowest terms.

a. $\frac{3}{8} + \frac{2}{8}$ _____

b. $\frac{1}{3} + \frac{1}{3}$ _____

c. $\frac{13}{20} + \frac{5}{20}$ _____

d. $\frac{5}{12} + \frac{1}{12}$ _____

e. $\frac{1}{5} + \frac{2}{5}$ _____

f. $\frac{1}{6} + \frac{1}{6}$ _____

g. $\frac{5}{9} + \frac{1}{9}$ _____

h. $\frac{7}{15} + \frac{2}{15}$ _____

Example 2

Simplify $\frac{9}{10} - \frac{3}{10}$.

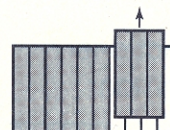
Subtract numerators only.

$$\begin{aligned}\frac{9}{10} - \frac{3}{10} &= \frac{9-3}{10} \\ &= \frac{6}{10} \\ &= \frac{3}{5}\end{aligned}$$

Denominators do not change.

Write in lowest terms.

So, $\frac{9}{10} - \frac{3}{10} = \frac{3}{5}$.



Try It Simplify. Draw a picture if you like. Write each answer in lowest terms.

i. $\frac{9}{15} - \frac{5}{15}$ _____

j. $\frac{7}{8} - \frac{1}{8}$ _____

k. $\frac{4}{5} - \frac{3}{5}$ _____

l. $\frac{9}{7} - \frac{5}{7}$ _____

m. $\frac{3}{4} - \frac{1}{4}$ _____

n. $\frac{7}{10} - \frac{3}{10}$ _____

o. $\frac{6}{7} - \frac{3}{7}$ _____

p. $\frac{11}{12} - \frac{5}{12}$ _____